## Who we are:

Transportation is so basic that many of us overlook its overwhelming importance in our daily lives. Practically everything used in our homes, offices, or schools across Tennessee – from furniture to food items to clothing – requires a large and complex transportation network. The Tennessee Department of Transportation provides citizens of Tennessee and travelers with one of the best transportation systems in the country. TDOT is a multimodal agency with responsibilities in building and maintaining roads, aviation, public transit, waterways, railroads, cycling and walking. Our involvement ranges from airport improvements to funding transit buses to planning for river ports. The Department of Transportation has approximately 3,500 employees with four statewide region facilities in Knoxville, Chattanooga, Nashville, and Jackson.

**Traffic Data Engineering Technician**
Planning Division – Roadway Data Section
$43,140 - $53,628 annually

**Job Overview**

The Traffic Data Engineering Technician plays a key role in supporting the successful collection and management of statewide traffic data critical to TDOT's planning and infrastructure decision-making. This position conducts field and office-based data collection using pneumatic road tubes, Embedded Detection Loops (EDL), Continuous Count Stations (CCS), and other traffic monitoring devices to gather vehicle volume, classification, and speed data across all functional road classes. The Traffic Data Engineering Technician is responsible for reviewing and verifying traffic data accuracy, maintaining monitoring equipment, performing roadway data calibration and equipment configuration, and contributing to traffic data reporting for TDOT systems such as TN-TIMES and "E-TRIMS RH." This position assists with identifying potential roadway data project challenges and minimizing variability in traffic data deliverables while contributing to the Department's Work Program.

The Traffic Data Engineering Technician works closely with the Traffic Data Collection Team Lead to ensure traffic monitoring operations meet federal and state reporting standards and departmental quality expectations. This position assists in preparing traffic data for the Highway Performance Monitoring System (HPMS) and supports coordination across teams by communicating status updates and recount needs using the Traffic Count Field Tool. The role also involves troubleshooting count discrepancies, performing routine quality checks, and maintaining consistent documentation to support data integrity and accessibility for planning partners and internal TDOT stakeholders. This position must effectively articulate traffic data technical concepts through training, mentoring, and collaboration as part of a matrix organization.

**Essential Job Responsibilities of TDOT Engineering Technician 1, 2, and 3 include:**

Perform traffic data collection tasks across all roadway types using pneumatic road tubes, EDL, CCS, and other traffic monitoring equipment in both field and office settings to capture vehicle volume, classification, and speed data. Perform operator-level preventive maintenance on traffic counters and perform roadway data calibration checks to ensure accurate and consistent performance.

Operate computer hardware, software, data collectors, and related equipment and applications, including TN-TIMES, "E-TRIMS RH", and data loggers, to capture, download, and review count files, generate reports and field documentation, track recounts, monitor site details, and present collected data. Assist with uploading data to central systems, maintaining the statewide traffic data inventory, and communicating with others to capture and preserve project information.

Ensure traffic data is accurately reported in TN-TIMES by verifying file names, confirming directional assignments align with station records, and reviewing entries in the Field Tool. Confirm that data is free of extraneous characters, zero counts, or missing hours, and that lane and directional assignments are correct and consistent across files.

Read and interpret functional classification maps, inventory reports, and traffic monitoring system documentation. Prepare daily activity reports, track site conditions, and maintain data logs and records for quality and Federal Highway Administration (FHWA) compliance.

Assist in supporting the Traffic Data Collection Team Lead by identifying potential roadway data project challenges and minimizing variability in traffic data deliverables. Support the coordination of field schedules, equipment logistics, and workload tracking as part of TDOT's annual traffic monitoring cycle and HPMS reporting process. Support communication across the Roadway Data Section by using the Traffic Count Field Tool and other applications to relay station status, recount needs, and errors. Assist with resolving discrepancies through field verification, field crew coordination, and internal documentation updates.

Remain current on best practices for traffic data collection and traffic count technology. Apply guidance from the FHWA Traffic Monitoring Guide (TMG) and internal TDOT protocols to deliver consistent, reliable data collection and reporting results.

Assist in ensuring the traffic data deliverables are consistent, predictable, and repeatable to provide consistently high levels of achievement, mitigation of risk, and an established track record of success. Assist in analyzing and tracking all data sets to ensure conformance to maximum error limits. Monitor, maintain, and track physical assets and inventory.

Provide exceptional customer service to both internal and external stakeholders by responding to data questions, clarifying traffic count methodologies, and documenting procedures and field changes. Ensure traffic data is easily accessible and organized, exercise effective listening skills, and communicate effectively. Communicate with internal and external customers, local government officials, regional staff, consultants, and contractors when necessary.

**Additional Job Responsibilities of TDOT Engineering Technician 2 and 3 include:**

Assist with maintaining pneumatic road tubes and CCS and tracking calibration/configuration logs for traffic monitoring equipment. Perform recount scheduling based on data anomalies and input from internal quality reviews.

Guide field crews in conducting short-duration and continuous count installations, ensuring proper counter placement, equipment programming, and safety protocols during field operations. Assist with estimating equipment needs for upcoming traffic data collection cycles.

Use TN-TIMES, "E-TRIMS RH", and related tools to extract, reformat, populate, and submit traffic volume, classification, and speed data. Prepare support documentation for FHWA inquiries or auditor requests related to HPMS and traffic data integrity.

Support the development, implementation, and maintenance of policies, data systems, and quality assurance processes that ensure consistency, efficiency, and accountability in the Planning Division deliverables.

**Additional Job Responsibilities of TDOT Engineering Technician 3 include:**

Independently perform advanced troubleshooting of traffic count anomalies and serve as a mentor to junior staff on calibration practices, counter deployment techniques, and data processing workflows.
Integrate Quality Management into all traffic data deliverables by verifying proper documentation, accuracy, and adherence to TDOT Traffic Monitoring Program procedures. Recommend process improvements based on observed field or data collection trends.

Implement short-term projects that assess new traffic data collection technologies or pilot changes to traffic count methods in coordination with the Traffic Data Collection Team Lead and Roadway Data Manager.
Assist in training field crews, new hires, and other employees by developing training materials, delivering hands-on instruction in pneumatic road tube placement, EDL configuration, CCS, and data validation software. Provide on-the-job guidance to support staff learning and development. Effectively articulate traffic data technical concepts through training, mentoring, and collaboration within a matrix organization.

**Qualifications**

**TDOT Engineering Technician 1:**

- High School Education or equivalent

**TDOT Engineering Technician 2:**

- High School Education or equivalent
- Completion of the Proficiency Requirements for the Engineering Technician 1 level.

**TDOT Engineering Technician 3:**

- High School Education or equivalent
- Completion of the Proficiency Requirements for the Engineering Technician 1 and 2 levels.

**Ideal Candidate**

The Traffic Data Engineering Technician is proficient in all matters related to participating in and guiding data collection and delivery of quality traffic data. They assist with creating an open environment that encourages communication and collaboration with their team and is a reliable resource for field crews assisting with achieving accountability. The Traffic Data Engineering Technician 3 collaborates closely with field crews to support data collection activities, ensuring that all traffic data gathered and managed by the Department meets the highest standards of quality.